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November 13, 2000

California Energy Commission
Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814-5504

Re: Docket No. 00-REN-1194

Dear Sir or Madam:

Enclosed for filing, please find an original and twelve copies of the submission on behalf of Plug Power, Inc. concerning the Commission's workshop on the Renewable Investment Plan.

Thank you.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Loren Kaye'.

Loren Kaye

cc: Marwan Masri

**BEFORE THE CALIFORNIA ENERGY COMMISSION
STATE OF CALIFORNIA**

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|--|---|--------------------------------------|
| Implementation of Renewables |) | Docket No. 00-REN-1194 |
| Legislation (Public Utilities Code |) | Committee Workshops |
| Sections 381, 383.5 and 399 [SB 1194, AB 995] |) | RE: Renewable Investment Plan |
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**SUBMISSION FOR WORKSHOPS
by
PLUG POWER, INC.**

Thank you for the opportunity to provide these comments on the Renewable Investment Plan. We appreciate your accepting and incorporating these comments after the completion of the workshops.

Plug Power is a leading designer and developer of on-site electricity generation systems utilizing proton exchange membrane fuel cells for residential applications. Plug Power intends to commercialize a natural gas-fueled and propane-fueled fuel cell system to residential customers that will operate parallel, stand-by and independent of the electricity grid.

We will restrict our comments to responding to Workshop Question number 17:

How should the question of the impact of emerging non-renewable fuel cell technologies be addressed?

As you noted in the background materials for the workshop, the Legislature required the Commission to "recommend allocations" for "specified fuel cell technologies," as long as the Commission made three findings concerning air pollutant characteristics, financial assistance, and contribution to the long-term objective of a self-sustaining, competitive supply of renewable energy.

We recommend the Commission develop a methodology for making these findings and, should the findings for any particular technology be made in the affirmative, allocate an appropriate and proportional amount of the available funding to those fuel cell technologies, consistent with allocations to other similar, competitive technologies.

The Commission should undertake this process because fuel cell technologies currently under development will meet the criteria set forth in the legislation:

- According to a 2000 study by Nathanael Greene of the Natural Resources Defense Council, "Small and Clean is Beautiful: Exploring the Emissions from Distributed

Generation and Pollution Prevention Policies," published in the June, 2000, *Electricity Journal*, and presented to the Energy Commission at its April 20, 2000, Siting Committee Workshop, fuel cells – while obviously not in the same league as wind or photovoltaics – provide emissions an order of magnitude lower than biomass. Fuel cells will also compare favorably to digester gas, landfill gas, MSW generation, and waste tire technologies.

- While advances in fuel cell and component technology have been reducing unit costs, and large-scale production will further create economies, early introduction and deployment of fuel cells will be at prices above the equivalent wholesale generation prices.
- Proponents of a renewable fuel cell technology, including Amory Lovins of the Rocky Mountain Institute, acknowledge that the ultimate achievement of that objective will only be met as the technology for fuel cells powered by natural gas, propane or other non-renewable fuels is proven in the marketplace. Technologies and infrastructure for processing feedstocks into hydrogen, achieving economies of scale in the production of fuel cells for residential, power generation, and transportation uses, and market development for this power supply will be achieved most efficiently across the bridge of a nonrenewable fuel source.

Indeed, the current Emerging Renewables Program has already recognized the usefulness of existing fuel cell technology by certifying the ONSI phosphoric acid fuel cell as eligible for its program.

In conclusion, we urge the Commission to recognize the important role that fuel cells, using natural gas or propane as a fuel source, will play in promoting California's energy diversity and marking a path for fuel cells using renewable fuel sources. The Commission should affirmatively provide a methodology by which fuel cells, as described in section 399.6(c)(7) of the Public Utilities Code, will become eligible for a proportionate allocation of funding under the Commission's investment plan.

Respectfully submitted,



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